The River Mile Framework 6-8 Sample
Connections to Washington State Revised Science Standards

Grades 6-8	EALR 1 Systems Inputs, Outputs, Boundaries & Flows	EALR 2 Inquiry Questioning & Investigation	EALR 3 Application Science, Technology, & Problem Solving
6	Identify TRM subsystems. Draw system boundaries to fit your study	Generate TRM questions & design a field investigation, collect & analyze data	Investigate professions & careers related to TRM (e.g., NPS Ranger, WDFWL biologist, Hydropower engineer)
7	Find evidence of output & input flows at TRM	Identify and interpret TRM data for patterns and variations	Formulate a TRM problem & the criteria for a successful solution.
8	Identify open and closed systems at TRM	Do a controlled experiment & model TRM systems	Research world-wide & cultural solutions to a TRM problem
Grades 6-8	**EALR 4 - Physical Science**		
	Balance & Unbalanced Forces	Atoms & Molecules	Interaction of Energy & Matter
6	Collect data. Does water exert balanced or unbalanced force shoreline landforms?	Study the properties of water. Identify mixtures & solutions at TRM	Find evidence of energy movement by conduction, convection & radiation
7	Measure the speed of TRM species. How does speed relate to survival of a species?	Water Quality sampling at TRM. How do pH & temperature impact fish health & reproduction?	Find TRM evidence of energy transfer by photosynthesis, (e.g., growth study fall to spring evergreen / deciduous)
8	Collect data on motor boat wakes. What is the impact of this force on TRM shoreline?	Water Quality sampling at TRM. How do dams change dissolved gas levels O_2 & Ni?	Explain the chemical transfer of energy in TRM food web
Grades 6-8	**EALR 4 - Earth and Space Science**		
	The Solar System	Cycles in Earth Systems	Evidence of Change
6	Study the impact of gravity on landforms	Investigate & explain the rock cycle evidence at TRM	Map and label TRM landforms
7	Investigate how plant & animal behavior changes with day/night cycle	Model the interactions of solids, liquids & gasses at TRM and their impact on plant & animal survival	Explain how plant & animal life at TRM depend on or adapt to landforms. How may it have changed over geologic time?
8	Investigate the lunar cycle impact on plants & animals	Water is a solvent. How does this property impact water quality?	Make a model to show how TRM changes if global warming predictions are correct
Grades 6-8	**EALR 4 - Life Science**		
	From Cells to Organisms	Flow of Energy through Ecosystems	Inheritance, Variation & Adaptation
6	Identify & classify TRM plant & animal species	Identify & map TRM ecosystems boundaries	Predict which species are most likely to survive if temperatures change.
7	Identify & classify TRM algae, fish, macroinvertibrates & microscopic water organisms	Predict how non-native species change the flow of energy through TRM food-web.	Identify variations in non-native species that account for rise in population (e.g., large mouth bass walleye)
8	Which organisms at TRM are most & least harmed by changes in water quality?	Study how increased nutrient loads (nitrates or phosphates) in the water impact TRM ecosystem balance?	Predict TRM species that are most likely to adapt & survive changes in the quantity of water.

Note: This chart is intended as a sample only. Faculties are encouraged to choose school-specific content & develop an articulated grade level focus for TRM site visits.